UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,382	11/15/2000	Kell Michael Jensen	42390P9690	9498

8791 7590 01/12/2004

BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD, SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER	
MCLOUGHLIN, MICHAEL I	
ART UNIT	**PAPER NUMBER**
2662	7

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/714,382	JENSEN ET AL.	
	Examiner	Art Unit	
	Michael I McLoughlin	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 1, 7, 13, 19, and 25 are objected to because of the following informalities: The examiner believes there is a typographical error in the phrase "single port and an aggregation of ports" and the "and" should be -**or**-. Appropriate correction is required.

2. Claim 22 is objected to because of the following informalities: The examiner believes there is a typographical error and "the data network of claim 7" in the first line should be –the data network of claim 19-.

3. Claim 25 is objected to because of the following informalities: The examiner believes there is a typographical error in line 8 and "switching, each port" should be -switching **fabric**, each port-.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 5 recites the limitation " the data switch " in lines 3 and 5 in claim 4 and in lines 2 and 5 in claim 5. There is insufficient antecedent basis for this limitation in the claims. Also, the term "the data switch" can be interpreted as either the first data switch or the destination data switch of claim 1, or as a data switch. Which data switch is "the data switch"?

6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the limitation of "a second data frame" is included in claim 4 that

corresponds with the destination address of a third MAC device. However in claim 6, "a second data frame" originates at a "third MAC device" and is associated with a source address and is in conflict with the limitations of claim 4. Which data frame and what MAC device are included in the limitations of claim 6?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Bare (U.S. 6,456,597), hereinafter referred to as Bare.

8. Regarding claim 1, Bare discloses a method of transmitting data through a mesh of data switches (see figure 1), the method comprising:

receiving a data frame at a first port of a first data switch (receiving a data frame at switch 1, or 106 of figure 1 on port 4), the data frame originating at the first MAC device and having a destination address associated with a second MAC device (originating at Host A, or 100 and having a destination address associated with Host C, or 104 of figure 1), the second MAC device being associated with a destination data switch in the mesh (Host C being associated with switch 4, or 112 in the mesh of figure 1);

associating the destination address with one of a single port and an aggregation of ports of the first data switch (associating the destination address with the three ports of switch 1 in figure 1 toward the mesh), each port in the aggregation of ports providing a data path through the mesh of data switches to the destination data switch (each of the three ports providing a path to switch 4); and

selecting a port in the aggregation of ports for transmitting the data frame to the destination data switch if the destination address is associated with an aggregation of ports (transmit packets to selected ports in the switch, see lines 48-49 in column 12, and host 100 to host 104...in port 4 switch 106, out port 2 switch 106, in port 2 switch 112, out port 4 switch 112, see lines 48-50 in column 10, where port 2 is selected as the preferred path from switch 1to switch 4 for the destination address of Host C).

9. Regarding claim 2, Bare discloses the method of claim 1, and further discloses the method further comprising:

associating the destination address with the destination data switch (associating the destination address 402 of figure 4 with the switch ID 506 of figure 5); and

determining the associated port or aggregation of ports based upon the destination data switch (maintain tables which direct packets for particular destination MAC addresses to a selected port or ports, see lines 57-59 in column 12).

10. Regarding claim 3, Bare the method of claim 1, and further discloses the method further comprising selecting a port in the aggregation of ports for transmitting the data frame based upon

one of the destination address and a source address of the data frame associated with the first MAC device (transmitting the data frame based on the destination address 402 and source address 404 of the data frame as shown in figure 4).

11. Regarding claim 4, Bare discloses the method of claim 1, (the examiner interprets "the data switch" in this claim to be the first data switch or switch 1 in figure 1) and further discloses the method further comprising:

maintaining a data structure associating each of a plurality of destination addresses with one of a port and an aggregation of ports on the data switch (maintain tables which direct packets for particular destination MAC addresses to a selected port or ports, see lines 57-59 in column 12);

receiving a second data frame having a destination address corresponding with a third MAC device on a receiving port of the data switch (receiving a second or new data frame on port 4 of switch 1 in figure 1 from a device with an unknown destination MAC address, see lines 34-35 in column 6);

comparing the destination address of the second data frame with the data structure to determine a match with a port of aggregation of ports(comparing the destination address to the maintained tables); and

if no match is determined (determining that the destination address is unknown), transmitting the second data frame through the mesh of data switches according to a spanning tree protocol (transmitting the new data frame through the mesh of figure 1 when spanning tree protocol is run with load balancing on ports not in the load balance domain where the ports are controlled by the spanning tree protocol, see lines 6-8 in column 21).

12. Regarding claim 5, Bare discloses the method of claim 4, (the examiner interprets "the data switch" in this claim to be the first data switch or switch 1 in figure 1) and further discloses the method further comprising:

Receiving a message at the data switch specifying a destination data switch associated with the destination address of the second data frame (receiving an ACK at switch 1 returned from the destination switch having a source MAC address of the switch receiving the packets, see lines 46-47 in column 12);

Associating in the data structure the destination address of the second data frame with a transmitting port on the data switch (automatically reprogram the destination address of the new data frame in the tables upon reception of a packet with a MAC address not programmed, see lines 49-55 in column 26); and

Suspending a transition for transmission of subsequent data frames to a third MAC device through a data path including the transmitting port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame through the data path (suspend transmission of subsequent data frames to a new device through the data path to insure convergence of the paths chosen before they are used to prevent out-of-sequence packets, see lines 65-67, and item 7, convergence period in column 14).

13. Regarding claim 6, Bare discloses the method of claim 1, and further discloses the method further comprising: maintaining a data structure associating each of a plurality of MAC device addresses with a destination data switch in the mesh (maintaining tables as cited above

associating each of the plurality of Hosts with their destination data switch, being Host A with switch 1, Host B with switch 3, and Host C with switch 4 as shown in figure 1);

receiving a second data frame originating at the third MAC device on a receiving port of the first data switch (this is interpreted by the examiner to be a third data frame originating at a fourth MAC device that deals with an unknown source device as opposed to an unknown destination device in claim 4 above, and this is receiving a third or new data frame from a fourth or new MAC device with an unknown source MAC address at port 4 of switch 1 in figure 1), the second data frame having a source address associated with the third MAC device (the third data frame having a source MAC address 404 per figure 4 associated with a fourth or new MAC device);

comparing a match with a destination data switch (comparing the source address to the tables cited above); and

if no match is determined (determining that the source MAC address is an unknown address), transmitting a message to at least one other data switch in the mesh specifying a first data switch as a destination data switch of the third MAC device (transmitting a message from switch 1 of figure 1 when a new source address is learned on this switch, that will inform all the other switches of this new host address and the fact that the switch can get there, see lines 23-26 in column 10).

14. Regarding claims 7 and 13, Bare discloses a source data switch and data switch controller for transmitting data frames through a mesh of data switches (switch 1 with resident switch control 3204 of figure 32 for transmitting data frames through the mesh of figure 1), the source data switch comprising:

A switching fabric including a plurality of ports (packet switch 3200 of figure 32 with the plurality of ports 3222, 3224, 3226, 3230, 3232, 3234, 3238, 3240, and 3242);

Logic to maintain a data structure associating each of a plurality of destination addresses of MAC devices coupled to a mesh of data switches with one of a port and an aggregation of ports of the switching fabric (logic residing in CPU 3202 of figure 32 that maintains tables associating destination address of the Hosts and switches coupled to the mesh in figure 1 with one or more of the ports residing in packet switch 3200), each port in the aggregation of ports coupling to a data path through the mesh of switches to a MAC device having the destination address (each port coupling to a data paths between Host **100** to **102**, Host **100** to Host **104**, and Host **102** to Host **104**, see lines 45-53 in column 10); and

Logic to select a port from among an aggregation of ports for transmitting a data frame received at the switching fabric if a destination address of received data frame is associated with the aggregation of ports (logic residing in CPU 3202 of figure 32 to select port 2 as the preferred path from switch 1 to switch 4 for the destination address associated with Host C, and see transmit packets to selected ports in the switch, see lines 48-49 in column 12, and host 100 to host 104...in port 4 switch 106, out port 2 switch 106, in port 2 switch 112, out port 4 switch 112, see lines 48-50 in column 10).

15. Regarding claims 8 and 14, Bare discloses the source data switch of claim 7 and data switch controller of claim 13, and further discloses the source data switch further comprising:

Logic to associate the destination address of the received data frame with a destination switch (logic residing in CPU 3202 of figure 32 to interpret received data frames per figure 4 and

associate the destination address with the destination switch in figure 1 by comparison of the destination address to the tables in CPU 3202 of figure 32); and

Logic to select a port from the aggregation of ports based upon the destination data switch for transmission of the received data frame (logic residing in CPU 3202 of figure 32 to select port 2 based on the switch ID 506 corresponding to switch 112 when a data frame structured per figure 5 is received for Host C).

16. Regarding claims 9 and 15, Bare discloses the source data switch of claim 7 and data switch controller of claim 13, and further discloses the source data switch further comprising logic to select a port in the aggregation of ports for transmission of the received data frame based upon one of a destination address and a source address of the received data frame (logic residing in CPU 3202 of figure 32 to select port 2 on switch 1 in figure 1 based on the destination address of Host C and a source address of Host A in a received data frame structured per figure 4).

17. Regarding claims 10 and 16, Bare discloses the source data switch of claim 7 and data switch controller of claim 13, and further discloses the source data switch further comprising:

logic to compare the destination address of the received data frame with the data structure to determine a match with a port or aggregation of ports (logic residing in CPU 3202 of figure 32 to compare the destination address of the received data frame structured per figure 4 with the tables for a match with a port); and

logic to initiate transmission of the received data frame through the mesh of data switched according to a spanning tree protocol if no match is determined (logic residing in CPU 3202 of

figure 32 to initiate transmission of the received data frame through the mesh of figure 1 when spanning tree protocol is run with load balancing on ports not in the load balance domain where the ports are controlled by the spanning tree protocol, see lines 6-8 in column 21).

18. Regarding claims 11 and 17, Bare discloses the source data switch of claim 10 and data switch controller of claim 16, and further discloses the source data switch further comprising:
logic to receive a message specifying a destination data switch associated with the destination address of the received data frame (logic residing in CPU 3202 of figure 32 to receive an ACK at switch 1 returned from the destination switch having a source MAC address of the switch receiving the packets, see lines 46-47 in column 12);
logic to associate in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch (logic residing in CPU 3202 of figure 32 to associate in the tables the destination address in the received data frame structured per figure 4 with port 2 based upon the switch ID in the frame structured per figure 5 when the destination is Host C); and
logic to suspend a transition for transmission of subsequent data frames to the destination address through a data path including the transmitting port to ensure a delay from a transmission of a last frame according to the spanning tree protocol to a transmission of a first data frame through the data path (logic residing in CPU 3202 of figure 32 to suspend transmission of subsequent data frames to a new device through the data path to insure convergence of the paths chosen before they are used to prevent out-of-sequence packets, see lines 65-67, and item 7, convergence period in column 14).

19. Regarding claims 12 and 18, Bare discloses the source data switch of claim 7 and data switch controller of claim 13, and further discloses the source data switch further comprising:
logic to compare the source address of the received data frame with the data structure to determine a match with a destination data switch (logic residing in CPU 3202 of figure 32 to compare the source address in the frame per figure 4 with the tables to determine a match with the switch ID per figure 5); and
logic to initiate transmission of a message to at least one data switch in the mesh specifying a data switch hosting the switching fabric as a destination data switch for data frames having a destination address corresponding with the source address of the received data frame (logic residing in CPU 3202 of figure 32 to initiate transmission of a message from switch 1 of figure 1 when a new source address is learned on this switch, that will inform all the other switches of this new host address and the fact that the switch can get there, see lines 23-26 in column 10).

20. Regarding claim 19, Bare discloses a data network for transmitting data frames from a source MAC device to a destination MAC device (data network of figure 1 for transmitting data frames from source Host A to destination Host C), the data network comprising:
a destination data switch coupled to a destination MAC device (switch 4 coupled to Host C);
A mesh of data switches coupled to the destination data switch for transmitting data frames originating at a source MAC device to the destination MAC device (the mesh of switches 1, 2, and 3, coupled to switch 4 for transmitting data frames originating at Host A to destination Host C); and

a source data switch coupled to the source MAC device including Source switch 1 coupled to source Host A);

a switching fabric including a plurality of ports (packet switch 3200 of figure 32 residing in switch 1 of figure 1 with a plurality of ports as shown in figure 1 or figure 32);

logic to maintain a data structure associating each of a plurality of destination addresses of MAC devices coupled to a mesh of data switches with one of a port and an aggregation of ports of the switching fabric, each port in the aggregation of ports coupling to a data path through the mesh of switches to a MAC device having the destination address (logic residing in CPU 3202 of figure 32 to maintain tables associating each of a plurality of destination MAC addresses of Hosts A, B, and C coupled to the mesh of data switches in figure 1 with a port or ports, each port in the aggregation of ports coupling to a data path such as Host **100** to Host **104**, see lines 435-48 in column 10 to the destination address of Host C); and

logic to select a port from among an aggregation of ports for transmitting a data frame received at the switching fabric if a destination address of received data frame is associated with the aggregation of ports (logic residing in CPU 3202 of figure 32 to select a port from an aggregation of ports, such as those on switch 1 in figure 2 for transmitting a data frame received on port 2 at the packet switch 3200 residing in switch 1 if the destination address is associated Host B or Host C).

21. Regarding claim 20, Bare discloses the data network of claim 19, and further discloses wherein the source data switch further comprises:

logic to associate the destination address of the received data frame with a destination switch (logic residing in CPU 3202 of figure 32 to associate the destination address of the received data frame structured per figure 4 with the destination switch ID in the frame per figure 5); and logic to select a port from the aggregation of ports based upon the destination data switch for transmission of the received data frame (logic residing in CPU 3202 of figure 32 to select a port such as port 2 of the aggregation of ports on switch 1 based on the destination switch ID per figure 5).

22. Regarding claim 21, Bare discloses the data network of claim 19, and further discloses wherein the source data switch further comprising logic to select a port in the aggregation of ports for transmission of the received data frame based upon one of a destination address and a source address of the received data frame (logic residing in CPU 3202 of figure 32 to select a port for transmission of the received data frame based upon one of the destination address 402 and source address 404 of the received data frame structured per figure 4).

23. Regarding claim 22, Bare discloses the data network of claim -19-(as cited above, the examiner believes that "7" is a typographical error and should be -19-, and further discloses the source data switch further comprising:
logic to compare the destination address of the received data frame with the data structure to determine a match with a port or aggregation of ports (logic residing in CPU 3202 of figure 32 to compare the destination address 402 of the received data frame with the tables to determine a match with a port, and see tables and cost calculations are used by a switch to determine on

which port to send any packets destined for this new or specific address in lines 27-31 in column 10); and

logic to initiate transmission of the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined (logic residing in CPU 3202 of figure 32 to transmission of the received data frame through the mesh of figure 1 when spanning tree protocol is run with load balancing on ports not in the load balance domain where the ports are controlled by the spanning tree protocol, see lines 6-8 in column 21).

24. Regarding claim 23, Bare discloses the source data network of claim 22, and further discloses wherein the source data switch further comprising:

logic to receive a message specifying a destination data switch associated with the destination address of the received data frame (logic residing in CPU 3202 of figure 32 to receive an ACK at switch 1 returned from the destination switch having a source MAC address of the switch receiving the packets, see lines 46-47 in column 12);

Logic to associate in the data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch; and

Logic to suspend a transition for transmission of subsequent data frames to the destination address through a data path including the transmitting port to ensure a delay from a transmission of a last frame according to the spanning tree protocol to a transmission of a first data frame through the data path (logic residing in CPU 3202 of figure 32 to suspend a transition for transmission of subsequent data frames to a new device through the data path to insure

convergence of the paths chosen before they are used to prevent out-of-sequence packets, see lines 65-67, and item 7, convergence period in column 14).

25. Regarding claim 24, Bare discloses the data network of claim 19, and further discloses wherein the source data switch further comprising:
logic to compare the source address of the received data frame with the data structure to determine a match with a destination data switch (logic residing in CPU 3202 of figure 32 to compare the source address 404 in the received data frame structured per figure 4 to determine a match with a destination switch ID as shown in figure 5); and
logic to initiate transmission of a message to at least one data switch in the mesh specifying a data switch hosting the switching fabric as a destination data switch for data frames having a destination address corresponding with the source address of the received data frame (logic residing in CPU 3202 of figure 32 to initiate transmission of a message from switch 1 of figure 1 when a new source address is learned on this switch, that will inform all the other switches of this new host address and the fact that the switch can get there, see lines 23-26 in column 10).

26. Regarding claim 25, Bare discloses an article comprising:
A storage medium comprising machine-readable instructions stored thereon for (CPU 3202 of figure 32 and its associated ASIC see lines 25-30 in column 11 are programmed with machine-readable instructions as would be any processor, see lines 31-37 in column 13):
detecting receipt of a data frame at a first port of a switching fabric (all port modules such as 3218 and 3236 of figure 32 listen or detect packets as they are received, see lines 30-31 in

column 12, where a first port would be port 4 of switch 1), the switching fabric having a plurality of ports (packet switch 3200 of figure 32), the data frame having a destination address associated with a destination MAC device coupled to the switching fabric through a mesh of data switches at a destination data switch (the data frame structured per figure 4 with a destination address associated with a MAC device such as Host C coupled to the packet switch 3200 residing in switch 1 through the mesh of figure 1 at the destination switch 4);

associating the destination address with one of a single port and an aggregation of ports of the switching (-fabric- as cited above), each port in the aggregation of ports providing a data path through the mesh of data switches to the destination data switch (associating each port from switch 1 through the mesh of figure 1 to the destination switch 4 via it's switch ID); and

selecting a port in the aggregation of ports for transmitting the data frame to the destination data switch if the destination address is associated with an aggregation of ports (selecting port 2 on switch 1 for the preferred path for transmitting the data frame to destination switch 4 for the destination address of Host C).

27. Regarding claim 26, Bare discloses the article of claim 25, and further discloses wherein the storage medium further comprises machine-readable instructions stored thereon for:

associating the destination address of the received data frame with a destination data switch (associating the destination address 402 of the received data frame per figure 4 with the destination switch ID, see figure 5); and

selecting a port from the aggregation of ports based upon the destination data switch for transmission of the received data frame (selecting port 2 as the preferred port for the path to destination switch 4 for transmission of the received frame).

28. Regarding claim 27, Bare discloses the article of claim 25, and further discloses wherein the storage medium further comprises machine-readable instructions stored thereon for selecting a port in the aggregation of ports for transmission of the received data frame based upon one of a destination address and a source address of the received data frame (selecting a port for transmission of the received data frame based upon one of a destination address 402 and a source address 404 of the received data frame structured per figure 4).

29. Regarding claim 28, bare discloses the article of claim 25, and further discloses wherein the storage medium further comprises machine-readable instructions stored thereon for: associating the destination address of the received data frame with a port of aggregation of ports to determine a match (associating the destination address of the received frame with a port; and Initiating transmission of the received data frame through the mesh of data switches according to a spanning tree protocol if no match is determined.

30. Regarding claim 29, Bare discloses the article of claim 28, and further discloses wherein the storage medium further comprises machine-readable instructions stored thereon for: Receiving a message specifying a destination data switch associated with the destination address of the received data frame (logic residing in CPU 3202 of figure 32 to compare the destination

address 402 of the received data frame with the tables to determine a match with a port, and see tables and cost calculations are used by a switch to determine on which port to send any packets destined for this new or specific address in lines 27-31 in column 10);

associating in a data structure the destination address of the received data frame with a transmitting port of the switching fabric based upon the destination data switch (associating in the tables of CPU 3202 of figure 32 the destination of the received data frame with a transmitting port based on the switch ID, see figure 5); and

suspending a transition for transmission of subsequent data frames to the destination address through a data path including the transmitting port to ensure a delay from a transmission of a last data frame according to the spanning tree protocol to a transmission of a first data frame through the data path (suspending a transition for transmission of subsequent data frames to a new device through the data path to insure convergence of the paths chosen before they are used to prevent out-of-sequence packets, see lines 65-67, and item 7, convergence period in column 14).

31. Regarding claim 30, Bare discloses the article of claim 25, and further discloses wherein the storage medium further comprises machine-readable instructions stored thereon for:

associating the source address of the received data frame with a destination data switch to determine a match (associating the source address 404 of the received data frame structured per figure 4 with a destination switch ID, see figure 5 to determine a match by comparison to the tables in CPU 3202 of figure 32); and

initiating transmission of a message to at least one data switch in the mesh specifying a data switch hosting the switching fabric as a destination data switch for data frames having a

destination address corresponding with the source address of the received data frame (initiate transmission of a message from switch 1 of figure 1 when a new source address is learned on this switch, that will inform all the other switches of this new host address and the fact that the switch can get there, see lines 23-26 in column 10).

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Matthews (U.S. 5,521,910), Method for determining a best path between two nodes.
2) Sakagawa (U.S. 5,774,662), System for server obtaining terminal address via searching address table or via broadcasting to all terminals through exchange in response to terminal address interrogation request.
3) Jain et al. (U.S. 6,330,229), Spanning tree with rapid database updates.
4) Matthews et al. (U.S. 6,048,858), Distribution of communication load over multiple paths based upon link utilization.
5) Cox et al. (U.S. 6,172,981), Method and system for distributing network routing functions to a local area network.
6) Gai et al. (U.S. 6,388,995), Method and apparatus for rapidly reconfiguring computers networks executing the spanning tree algorithm.
7) Krishnan et al. (U.S. 6,621,798), Method to sequence changes for IP network configuration.

8) Perlman (U.S. 5,323,394), Selecting optimal routes in source routing bridging without exponential flooding of explorer packets.

9) Chin (U.S. 5,872,783), Arrangement for rendering forwarding decisions for packets transferred among network switches.

10) Besler et al. (U.S. 6,151,324), Aggregation of MAC data flows through pre-established path between ingress and egress switch to reduce number of number connections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I McLoughlin whose telephone number is 703-308-7911. The examiner can normally be reached on weekdays 7AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

mim
December 29, 2003

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600